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PATENT ABSTRACTS OF JAPAN

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(21)Application number : 62-251311   (71)Applicant : NISSIN ELECTRIC CO LTD

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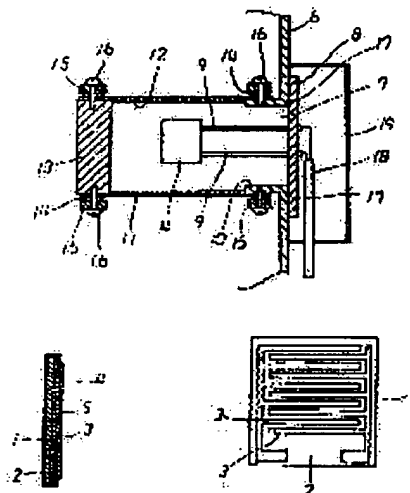   KANBA MASARU

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(54) GAS-IN-OIL SENSOR

(57)Abstract:

PURPOSE: To accurately measure the hydrogen gas in oil, by coating the surface of a sensor main body with a membrane composed of a polyimide resin and further covering the sensor main body with a gas permeable film.

CONSTITUTION: The surface of a sensor main body 4 is coated with a membrane 5 composed of a polyimide resin and further covered with a gas permeable film 11. The oil in a tank 6 is certainly blocked by the film 11 and does not reach the circumference of the sensor main body 4. Since the transmission coefficient of the film is large to hydrogen gas, said gas certainly transmits through the film 11. Since the transmission coefficient of the polyimide membrane 5 is large to the hydrogen gas as compared with other gas, the hydrogen gas in the gas transmitting through the film 11 selectively transmits through the polyimide membrane 5 to be brought into contact with the membrane 2 composed of metal oxide to be reacted therewith. By this mechanism, the surface resistance of the membrane 2 changes corresponding to the concn. of hydrogen gas. Therefore, by detecting said surface resistance as the resistance between the electrodes 3, the concn. of the hydrogen gas can be measured.

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